IN THE CLAIMS

The following listing of the claims is provided in accordance with 37 C.F.R. §1.121.

1. (currently amended) A conversion device for use in an imaging system comprising:

a first perforated plate portion forming a plurality of collimator channels separated by a plurality of thin collimator walls;

a second perforated plate portion forming a plurality of scintillator channels separated by a plurality of thin scintillator walls;

reflective coating applied to the inside scintillator surface of said plurality of thin scintillator walls; and

a luminescent glass or luminescent polymer scintillator material filling said plurality of scintillator channels.

2. (original) A conversion device for use in an imaging system as in claim 1 wherein said first perforated plate portion and said second perforated plate portion are formed from a single perforated plate element.

3. (original) A conversion device for use in an imaging system as in claim 1 wherein said collimator channels comprise a spacing pitch of less than or equal to 2mm.

4. (original) A conversion device for use in an imaging system as in claim 1 wherein said collimator channels comprise a collimator channel width less than 500 microns.

5. (original) A conversion device for use in an imaging system as in claim 1 wherein said then collimator walls comprise a wall thickness of 100 microns

6. (canceled)

7. (currently amended) A conversion device for use in an imaging system as in claim [[6]]1, wherein said luminescent glass comprises luminescent materials dispersed in a glassy matrix.

8. (currently amended) A conversion device for use in an imaging system as in claim [[6]]1, wherein said luminescent glass comprises a glass ceramic containing crystalline particles.

9. (canceled)

10. (currently amended) A conversion device for use in an imaging system as in claim [[9]]1, wherein said luminescent polymer comprises inorganic phosphor particles suspended in a polymer matrix.

11. (original) A conversion device for use in an imaging system as in claim 1 wherein said plurality of thin collimator walls is comprised of a high atomic number metal.

12. (original) A conversion device for use in an imaging system as in claim 1 wherein said first perforated plate portion comprises a perforated copper plate.

13. (original) A conversion device for use in an imaging system as in claim 1 wherein said reflective coating comprises TiO2.

14. (currently amended) A conversion device for use in an imaging system as in claim 1 wherein said luminescent glass or luminescent polymer scintillator material ~~comprises a luminescent material that~~ does not decompose when dispersed in molten glass, said luminescent material suspended in said molten glass.

15. (currently amended) A conversion device for use in an imaging system comprising:

a perforated plate forming a plurality of scintillator channels separated by a plurality of thin scintillator walls;

reflective coating applied to the inside scintillator surface of said plurality of thin scintillator walls; and

a luminescent glass or luminescent polymer scintillator material filling said plurality of scintillator channels.

16. (currently amended) A method of manufacturing a conversion device for use in an imaging system comprising:

perforating a plate element to form a plurality of scintillator channels separated by a plurality of thin scintillator walls;

coating an inside surface of said plurality of thin scintillator walls with a reflective coating; and

filling said plurality of scintillator channels with a luminescent glass or luminescent polymer scintillator material.

17. (currently amended) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said filling said plurality of scintillator channels comprises:

placing a luminescent glass or luminescent polymer scintillator material on said perforated plate element;

applying a load to said luminescent glass or luminescent polymer scintillator material such that said luminescent glass or luminescent polymer scintillator material is pressed onto said perforated plate element;

heating said luminescent glass or luminescent polymer scintillator material to a slumping temperature such that said scintillator material fills said plurality of scintillator channels.

18. (currently amended) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, further comprising:

grinding said luminescent glass or luminescent polymer scintillator material such that a scintillator upper surface is planar with a perforated plate upper surface.

19. (original) A method of manufacturing a conversion device for use in an imaging system as described in claim 18, further comprising:

grinding said perforated plate upper surface such that a perforated plate depth is adjusted.

20. (currently amended) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said filling said plurality of scintillator channels comprises:

forming a block of luminescent glass or luminescent polymer scintillator material with said perforated plate element embedded within said block of scintillator material; and

grinding said luminescent glass or luminescent polymer scintillator material such that a scintillator upper surface is planar with a perforated plate upper surface.

21. (currently amended) A method of manufacturing a conversion device for use in an imaging system as described in claim 16, wherein said luminescent glass or luminescent polymer scintillator material only partially fills said perforated plate element such that a scintillator function is generated by said luminescent glass or luminescent polymer scintillator material and a collimator function is generated by an unfilled portion.